

REMARKS

Claims 1-17 and 21-29 are pending in this application. Claims 1, 8, 21, and 28 have been amended for clarity without altering their scope. Reconsideration of this application in light of the below remarks is respectfully requested.

I. CLAIM REJECTIONS UNDER 35 U.S.C. § 112.

Claim 8 is rejected under 35 U.S.C. § 112 second paragraph. Claim 8 has been amended as suggested. Accordingly, withdrawal of this rejection is respectfully requested.

II. CLAIM REJECTIONS UNDER 35 U.S.C. § 102.

Claims 1, 4-7, 9-13, 15-17, 21, 23, and 25-28 are rejected under 35 U.S.C. § 102(b) as being anticipated by Benveniste (US 5,554,857). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 1 recites a mass analyzer comprised of a first permanent magnet and a second permanent magnet and without electromagnets that generates a substantially uniform magnetic field across a beam path of the ribbon-shaped ion beam, which is not taught by Benveniste.

The Office Action relies upon items 110 and 112 of Benveniste as teaching first and second permanent magnets. The items 110 and 112 are constructed of ferroelectric material. However, the items 110 and 112 are multi-segment magnetic pole pieces of a magnet 22, not a pair of permanent magnets. For example, Fig. 5 illustrates three magnetic pole pieces 110A, 110B, and 110C that widen from a narrow portion on a radially inner portion of the magnet 22 to a relatively wider portion on a radially outer portion of the magnet. (column 6, lines 23-29). Furthermore, the magnetic field of Benveniste is not generated from a first and second permanent magnet, but is instead generated from the pole pieces 110, 112 *and current through the coils 122, 123*. (column 5, lines 54-65). Benveniste even includes six additional current

carrying coils 130-135 to establish a quadrapole field in addition to the dipole field. (column 6, lines 5-8). Thus, Benveniste does not teach a mass analyzer comprised of a first permanent magnet and a second permanent magnet *without electromagnets* as in claim 1, but instead teaches a magnet 22 that employs electromagnets 122, 123 and magnetic polepieces 110, 112. Accordingly, Benveniste does not teach the mass analyzer of claim 1 and does not anticipate claim 1.

Claims 4-7, 9-13, and 15-17 depend from claim 1 and are not taught by Benveniste for at least the above reasons.

Claim 21, which has been amended for clarity, includes generating a magnetic field from only a first permanent magnet and a second permanent magnet of a mass analyzer. Benveniste, as shown above, generates a dipole magnetic field B₀ from the ferro-magnetic pole pieces 110, 112, and current through the coils 122, 123.

Accordingly, Benveniste does not anticipate claim 1. Claims 23 and 25-28 are not anticipated by Benveniste for at least the above reasons.

Withdrawal of this rejection is respectfully requested.

III. CLAIM REJECTIONS UNDER 35 U.S.C. § 103.

Claims 2 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste (5,554,857) in view of Vahrenkamp (4,315,153). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 2 depends from claim 1, which Applicant has shown is not taught by Benveniste. Vahrenkamp fails to cure the deficiencies of Benveniste. Similarly, claim 22 depends from claim 21, which has been shown not to be taught by Benveniste. Accordingly, Vahrenkamp fails to cure the deficiencies of Benveniste with regard to claim 22. Thus, the cited references, alone or in combination, fail to teach all of the limitations of claims 2 and 22 and withdrawal of this rejection is respectfully requested.

IV. CLAIM REJECTIONS UNDER 35 U.S.C. § 103.

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste (5,554,857) in view of Horsky et al. (US Patent Application Publication No. 2004/0104682). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 3 depends from claim 1, which has been shown not taught by Benveniste. Claim 3 includes the claim limitations of claim 1 via dependency. Additionally, Horsky et al. fail to cure the deficiencies of Benveniste. Thus, the cited references, alone or in combination, fail to teach all of the limitations of claim 1. Withdrawal of this rejection is respectfully requested.

V. CLAIM REJECTIONS UNDER 35 U.S.C. § 103.

Claims 14 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste (5,554,857). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 14 depends from claim 1, which Applicant has shown is not taught by Benveniste. Claim 14 necessarily has the limitations of claim 1. Similarly, claim 24 depends from claim 21, which has been shown not to be taught by Benveniste. Claim 24 necessarily has the limitations of claim 21. Withdrawal of this rejection is respectfully requested.

VI. CONCLUSION

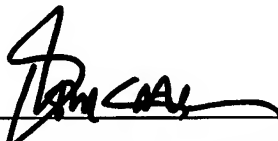
For at least the above reasons, pending claims currently under consideration are believed to be in condition for allowance and notice thereof is requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, EATNP139US.

Respectfully submitted,
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CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: June 6, 2006


Christine Gillroy